

Cost benefits of adapting homes to reduce falls by older people *Applying the findings of international studies to the UK*

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Overview

It is widely acknowledged that falls and fall-related injuries result in major costs to health and care systems:

- *Around one in three people over 65 and one in two people over 80 fall at least once each year.*
- *Falls account for around 40% of all ambulance call-outs to the homes of people over 65 and are a leading cause of older people's use of hospital beds.*
- *Each year there are around twice as many fractures resulting from falls as there are strokes in the over 65s.*
- *Falls are a common precipitant for people moving into long-term care, or needing more help at home.¹*

A Cochrane review² looking at the effectiveness of various interventions in the prevention of falls among older people living in the community, concluded that home safety assessment and modification interventions were effective at reducing the rate and risk of falls.

Less research has been carried out to quantify the cost benefit to the NHS & Social Care of home adaptations for older people at risk of falls. Utilising the findings of a recent New Zealand study of falls reductions due to home modifications, alongside new data from Torbay about the costs arising from falls over 12 months, we can derive some indicative figures of potential savings.

Home Adaptations: Evidence of the scale of impact on falls reduction

In 2014 a single blind, cluster-randomised controlled trial was carried out with the aim of quantifying the impact of home modifications on the incidence of injury from falls³.

It was a three year study carried out in New Zealand based on a sample of over 800 people living in similar property and in receipt of welfare benefits. Half of the sample received a package of home modifications (*including handrails for outside steps and internal stairs, grab rails for bathrooms, outside lighting, edging for outside steps, and slip-resistant surfacing for outside areas*) at the start of the trial, the other half had to wait three years.

Because of the nature of the trial, there was a fairly standard package of relatively low cost adaptations installed at an average cost of \$850 (£375).

The results were stark. The home modifications led to a 26% reduction in injuries attributable to home falls that needed medical treatment. Injuries specific to the home modification intervention were reduced by 39%.

¹ Professor David Oliver, Kings Fund blog What are the real costs of falls and fractures 2013

² Gillespie L D, Robertson MC et al Interventions for preventing falls in older people living in the community *Cochrane Database Syst Rev* 2012, CD007146

³ Keale MD et al Home Injury Prevention Intervention (HIPI) Study *The Lancet* (online) 23rd Sept 2014

What could such a scale of reduction mean in terms of potential savings to the NHS and social care in the UK?

Hip Fracture

The most common serious injury arising from a fall is a hip fracture. Around 70,000-75,000 hip fractures occur in the UK each year. The annual cost for all hip fractures in the UK, including medical and social care, is about £2 billion (c £26,000 per hip fracture)⁴.

Applying the New Zealand finding of a 26% reduction in falls achieved by very modest adaptations would indicate a potential reduction of 18,000 falls with resulting savings of half a billion pounds (£500 million) each year.

The cost of the modest New Zealand type package of measures for a targeted at-risk group of the older population (*taking for example 50% of people over 75 yrs who are more at risk = 1,710,000 dwellings*⁵) would cost around £643 million. Thus savings on hip fractures alone would potentially cover installation costs in just over one year, not even accounting for the annual savings arising from prevention of the many other falls injuries (wrist fracture, knee & foot damage).

It is worth noting that because of the design of the trial the home modifications in the New Zealand study were not tailored to individual need/risk. The study referred to a Cochrane review⁶ which noted that home modification was more effective in prevention of falls when the intervention was specified by an occupational therapist who could tailor the intervention to the individual.

A preventative home adaptations programme in the UK would take a far more tailored and targeted approach, thereby likely to yield greater benefits, albeit with some higher costs of installing small and medium sized adaptations.

More general falls-associated costs over a 12 month period

A system-wide [study](#) carried out in Torbay by the Kings Fund (2014) tracked and analysed the resulting health and care costs for 12 months before and after falls amongst people over 65 that led to hospital admission. It found that:

- On average, the cost of hospital, community healthcare, and social care services for each patient who fell were almost four times as much in the 12 months after admission for a fall as the costs of the admission itself.
- Comparing the 12 months before and after the fall, the most dramatic increase was in community healthcare costs (160%), compared to a 37% increase in social care costs and a 35% increase in acute hospital care costs.
- While falls patients in this study accounted for just over 1% of Torbay's over-65 population, in the 12 months that followed a fall, spending on their care accounted for 4% of the whole annual inpatient acute hospital spending, and 4% of the whole local adult social care budget. This was a total cost of over £5 million for 421 patients.

⁴ www.nhs.uk/conditions/hip-fracture/Pages/introduction.aspx

⁵ 13% of households in UK have a Household Reference Person over 75yrs out of a total of 26.4 million households ([ONS 2013 Census data](#))

⁶ Gillespie L D, Robertson MC et al Interventions for preventing falls in older people living in the community *Cochrane Database Syst Rev* 2012, CD007146

Applying the 26% falls reduction identified by the New Zealand study would result in a saving of £1.3 million p.a. in Torbay.

Applying the 39% falls reduction rate identified by the New Zealand study, which might be achieved by more personalised and targeted interventions, would yield an annual saving of just under £2 million.

There are 8.7 million people over 65 in England. 1% of that population is 87,000. Applying the Torbay findings and the New Zealand 26% falls reduction rate from generic minor home adaptations, gives a potential national annual cost saving of £258 million in subsequent health and care costs following a fall (or applying the 39% rate, £403 million p.a.).

Conclusions

The Torbay analysis is a useful step forward towards a better understanding of the impact of falls on both NHS and social care costs over an extended time period, and the New Zealand study is the strongest (possibly the only) RCT yet to be undertaken to quantify falls and injury reduction resulting from home modifications.

Far more research is clearly necessary in order to disentangle costs attributable directly to the fall from those associated with underlying co-morbidities and also to quantify the benefits of more individually tailored and targeted adaptations.

Nevertheless, these studies do provide useful additional information at a time when evidence of the cost benefits to public expenditure of any state supported interventions is in demand.

Produced by Care & Repair England

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